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06/02/2008

WOODCOCK WASHBURN LLP (MICROSOFT CORPORATION) CIRA CENTRE, 12TH FLOOR 2929 ARCH STREET PHILADELPHIA, PA 19104-2891

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ART UNIT	PAPER NUMBER

2132

DATE MAILED: 06/02/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/849,093	05/04/2001	Praerit Garg	MSFT-0222/158379.2	9404

TITLE OF INVENTION: SYSTEM AND METHODS FOR PROVIDING DYNAMIC AUTHORIZATION IN A COMPUTER SYSTEM

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1440	\$300	\$0	\$1740	09/02/2008

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

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41505 75	41505 7590 06/02/2008		EXAMINER		
WOODCOCK WASHBURN LLP (MICROSOFT CORPORATION) CIRA CENTRE, 12TH FLOOR			DINH, MINH		
			ART UNIT	PAPER NUMBER	
2929 ARCH STREET PHILADELPHIA, PA 19104-2891		2132 DATE MAILED: 06/02/200	8		

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 912 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 912 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Applicant(s) GARG ET AL. Art Unit 2132 The correspondence address-this application. If not included incation will be mailed in due course. THIS bject to withdrawal from issue at the initiative of the course o
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EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Michael P. Dunnam on 05/22/08.

The claims have been amended as follows:

1. A method for dynamically managing access to a resource in a computer system, the system having a client thereof having an application making an access request for the resource requesting access to the resource from an application, the method comprising:

initializing a client authorization context for the client using one or more client context initialization routines;

determining, via an application programming interface, based upon dynamic data possessed by the application and a first dynamic policy whether said client authorization context is to be updated and, if so, updating said client authorization context, wherein said first dynamic policy is tailored to said application through which the resource is accessed;

invoking an access check routine to determine if the application or client represented by the client authorization context is allowed access to the resource, the application providing said dynamic data and an identifier for the access check in the client authorization context to the access check routine for comparison against access control entries;

identifying an access control entry as a callback access control entry; and

in response to identifying the access control entry as a callback access control entry and a match between said identifier and an identifier in the callback access control entry, automatically invoking, via said application programming interface, an application-defined dynamic access check routine that performs the access check for the application client based upon said dynamic data and a second dynamic policy in the callback access control entry for the application, wherein said second dynamic policy is tailored to said application and said dynamic data includes authorization policy data stored in said callback access control entry and/or run-time data managed by the application.

10. (canceled)

12. A computer readable storage medium having computer executable instructions stored thereon that when executed by a computer cause the computer to carry out a method for dynamically updating a client authorization context in a computer system having a client thereof having an application making an access request for a resource requesting access to a resource from an application, the method comprising:

computing a client authorization context after the request for the resource is received from the client;

determining, via an application programming interface, based upon dynamic data possessed by the application and a first_dynamic policy whether said client authorization context is to be updated and, if so, updating said client authorization context, wherein said first dynamic policy is tailored to said application through which the resource is accessed;

invoking an access check routine to determine if the application or client represented by the client authorization context is allowed access to the resource, the application providing said dynamic data and an identifier for the access check in the client authorization context to the access check routine for comparison against access control entries;

identifying an access control entry as a callback access control entry; and

in response to identifying the access control entry as a callback access control entry and a match between said identifier and an identifier in the callback access control entry, automatically invoking, via said application programming interface, an application-defined dynamic access check routine that performs the access check for the application client based upon said dynamic data and a second dynamic policy in the callback access control entry for the application, wherein said second dynamic policy is tailored to said application and said dynamic data includes authorization policy data stored in said callback access control entry and/or run-time data managed by the application.

- 20. A computer readable storage medium according to claim 12, the method further comprising comparing data to a client authorization context determined based upon static data and policy before <u>said step of</u> determining <u>based upon dynamic data</u> whether the client authorization context is to be updated.
- 22. A computer readable storage medium having computer executable instructions stored thereon that when executed by a computer cause the computer to perform a method of dynamically managing access to a resource in a computer system, the system having a client thereof having an

application making an access request for the resource requesting access to the resource from an application, the method comprising:

computing a client authorization context after the access request for the resource is received from the client;

determining, via an application programming interface, based upon dynamic data possessed by the application and a first dynamic policy whether said client authorization context is to be updated and, if so, updating said client authorization context, wherein said first dynamic policy is tailored to said application through which the resource is accessed;

providing said dynamic data and the client authorization context to an access check routine;

comparing the client authorization context to at least one access control entry of an access control list to determine if the application or client represented by the client authorization context is allowed access to the resource;

the application providing dynamic data to an access check routine for comparison against access control entries for identifying an access control entry having an identifier that matches an identifier in the client authorization context as a callback access control entry; and

in response to identifying the access control entry as a callback access control entry, automatically invoking, via said application programming

interface, an application-defined dynamic access check routine that performs the access check for the application client based upon said dynamic data and a second dynamic policy in the callback access control entry for the application, wherein said second dynamic policy is tailored to said application and said dynamic data includes authorization policy data stored in said callback access control entry and/or run-time data managed by the application.

26. For an application in a computer system having a resource manager that manages and controls access to a resource and a client thereof requesting access to a resource from an application, a computer readable storage medium having computer executable instructions stored thereon that when executed by the computer system causes the computer system to carry out a method for dynamically updating a client authorization context in the computer system, the computer system having a client thereof having an application making an access request for a resource carrying out a dynamic authorization callback mechanism that provides extensible support for application-defined business rules via a set of APIs and DACLs including a dynamic groups routine and a dynamic access routine customized to the application, the method comprising:

initializing a client authorization context for the client;

carrying out said dynamic groups routine to update for updating said client authorization context based upon dynamic data possessed by the application and a first dynamic policy tailored to said application through which the resource is accessed; and

carrying out a dynamic authorization callback mechanism said dynamic access routine to determine if the application or client represented by the updated client authorization context is allowed access to the resource, the dynamic authorization callback mechanism providing extensible support for application-defined business rules via a set of APIs and DACLs including a dynamic groups element, and said dynamic groups element enabling said application to assign temporary group membership, based on dynamic factors, to said client for the purpose of checking access rights, wherein said dynamic groups element and a dynamic access element utilize dynamic data that includes authorization policy data and/or run-time data managed by the application said dynamic access routine using said dynamic data and a second dynamic policy in a callback access control entry when an identifier in the client authorization context matches an identifier in the callback access control entry, wherein said dynamic data includes run-time data managed by the application.

27. (canceled)

- 28. A computer readable storage medium according to claim 26, further comprising registering said dynamic groups element routine and said dynamic access element routine with the resource manager upon initializing the resource manager and storing said authorization policy data second dynamic policy in [[a]] said callback access control entry.
- 33. A computer readable storage medium having computer executable instructions stored thereon that when executed by a computer causes the computer to provide dynamic authorization of an application in a computer system based upon application-specific or business rules that incorporate dynamic data, the dynamic data including an identifier for identifying whether a dynamic access check callback function should be invoked for conducting said dynamic authorization of said application, data from client operation parameters, authorization policy data stored in a callback access control entry, and any other authorization policy data managed, computed or retrieved by the application, the computer executing said computer executable instructions to perform the steps of:

the application using an initialization routine to register with a resource manager dynamic group functions that enable the application to assign temporary group membership based upon transient or changing factors said dynamic data to a client for the purpose of checking access

rights to a resource protected by the resource manager and to register with said resource manager dynamic access check callback functions that enable the application to perform customized procedures for checking access rights to said resource based on said transient or changing factors dynamic data;

adding said dynamic access check callback functions to the resource manager's registered callback list; and

when a user attempts to connect to the application to request the resource, automatically invoking a registered dynamic group function to augment said client authorization context with client contextual data computed using said dynamic data; and

invoking a registered dynamic access check callback function to provide said customized procedures for checking access rights to the resource based on said transient or changing factors dynamic data and said augmented client authorization context.

The following is an examiner's statement of reasons for allowance.

The present invention is directed to a method for authorizing a client's request for accessing a resource using dynamic data, wherein the dynamic data is used to update a client authorization context first and then the updated client authorization context is used to determine whether the request is authorized.

Independent claim 1 identifies the uniquely distinct features: identifying an access control entry as a callback access control entry; and in response to identifying the access control entry as a callback access control entry and a match between said identifier and an identifier in the callback access control entry, automatically invoking, via said application programming interface, an application-defined dynamic access check routine that performs the access check for the client based upon said dynamic data and a second dynamic policy in the callback access control entry for the application, wherein said second dynamic policy is tailored to said application and said dynamic data includes run-time data managed by the application. The closest prior art, Swift (6,308,274), also disclose a method for controlling access to a resource using dynamic data. However, Swift's dynamic data is used only for updating a client authorization context, i.e., generating a restricted token having one or more restricted security IDs, and then the restricted security ID(s) is used to determine whether the request for accessing the resource is authorized. Swift does not disclose that the dynamic data is also used by an application-defined dynamic access check routine that performs the access check. Independent claims 12, 22 and 26 recite similar features and are allowed for the same reasons.

Independent claim 33 identifies the uniquely distinct features: the application using an initialization routine to register with a resource manager

dynamic group functions that enable the application to assign temporary group membership based upon said dynamic data to a client for the purpose of checking access rights to a resource protected by the resource manager and to register with said resource manager dynamic access check callback functions that enable the application to perform customized procedures for checking access rights to said resource based on said dynamic data. Swift discloses using (i) dynamic groups functions to assign temporary group membership based on dynamic data and (ii) dynamic access check functions; however, Swift does not disclose an application using an initialization routine to register these functions with a resource manager. Another prior art, "Securing and Managing Web Resources with IBM SecureWay Policy Director - White Paper", also discloses using dynamic data and callback ACEs for controlling access to resources (page 12, 2nd paragraph); however, it does not disclose an application using an initialization routine to register functions for assigning temporary group membership and performing dynamic access check with a resource manager.

The prior art, taken either singly or in combination, fails to anticipate or fairly suggest the limitations of applicant's independent claim, in such a manner that a rejection under 35 U.S.C 102 or 103 would be proper. The

claimed invention is therefore considered to be in condition for allowance as being novel and nonobvious over prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINH DINH whose telephone number is (571)272-3802. The examiner can normally be reached on Mon-Fri: 10:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. D./ Examiner, Art Unit 2132

05/23/08

/Gilberto Barron Jr/ Supervisory Patent Examiner, Art Unit 2132